

REMARKS

This Amendment serves as the submission accompanying Applicants' Request for Continued Examination (RCE) filed pursuant to 37 C.F.R. §1.114. By final Office Action mailed October 4, 2005, pending claims 1-13, 15-17 and 19-33 stand rejected, reconsideration of which is respectfully requested in view of the above amendments and following remarks.

By way of this Amendment, claims 1, 2, 4-13, 15-17, 19-28 and 30-33 are now pending. Claims 3 and 29 have been canceled (claims 14 and 18 having been previously cancelled). All pending claims have been amended.

Rejections Under 35 U.S.C. §112

All pending claims stand rejected under the second paragraph of §112 as indefinite for the reasons set forth in the Office Action at pages 2-4. Applicants have now amended all pending claims for purpose of clarity. Support for these amendments may be found throughout the specification as originally filed, and does not constitute addition of new matter.

More specifically, Applicants have amended the claims to clarify the nature of the claimed subject matter. Independent claim 1, as well as dependent claims 2, 4-13, 15-17 and 19-22, have been amended to clarify that the recited compounds comprise at least three components: (1) a non-polymeric backbone or core, (2) a capsid binding moiety covalently attached to (1), and another capsid binding moiety covalently attached to (1). In this regard, claim 1 recites "at least two capsid binding moieties" covalently attached to the non-polymeric backbone or core. Thus, claim 1 recites at least two (but also includes three, four, five, etc.) capsid binding moieties covalently attached to the non-polymeric backbone or core.

Independent claim 23 similarly recites at least a three-component compound; namely, (1) a non-polymeric backbone or core, (2) a capsid binding moiety covalently attached to (1), and (3) at least one functional group covalently attached to (1) that is capable of reacting with functionalized capsid binding moieties and/or detectable labels.

Process claims 24-26 have been amended to more clearly recite a method of making a compound of claim 1. Similarly, method claims 27, 28 and 31 have been amended to

recite treating a picornavirus infection by administration of a compound of claim 1 (and claim 29 canceled to avoid duplication of amended claim 27).

Lastly, pharmaceutical composition claim 30, agent claim 32, and method claim 33 have also been amended for purpose of clarity.

In view of the above amendments, Applicants submit that the pending claims satisfy the second paragraph requirements of §112. For example, the phrase “functional binding residue” has been removed from claim 1. As to the Examiner’s comments regarding the nature of the non-polymeric backbone or core, the claims have been amended to clarify that at least two capsid binding moieties of formula (I) are covalently attached to the non-polymeric backbone or core. Further, the meaning of the phrase “symmetrical dimer” as used in claim 13 is now clearly evident (*see, e.g.*, Compound 32 at page 21 of the specification).

Accordingly, Applicants submit that the pending claims fully satisfy the second paragraph requirements of §112, and request that this ground of rejection be withdrawn as applied to the currently amended claims.

Rejections Under 35 U.S.C. §102/103

Some or all of the pending claims stand rejected under 35 U.S.C. §102(b) as anticipated by, and under 35 U.S.C. §103(a) as obvious over, six (6) separate patent documents; namely, (1) WO 99/29280 to Joseph-McCarthy et al., (2) WO 99/29908 to Tsang et al., (3) U.S. Patent No. 5,637,708 to Hogle et al., (4) U.S. Patent No. 4,818,761 to Sato et al., (5) U.S. Patent No. 5,026,848 to Daneshtalab et al., and (6) U.S. Patent No. 6,355,807 to Tian et al. The Examiner’s bases for these rejections are summarized on pages 5-15 of the outstanding Office Action, and are not repeated herein for purpose of brevity.

Applicants respectfully submit that these prior art rejections are based on an incorrect understanding of the claimed subject matter. As discussed above, claim 1 recites a compound comprising at least two capsid binding moieties and a non-polymeric backbone or core, wherein the at least two capsid binding moieties are covalently attached to the non-polymeric backbone or core. The capsid binding moieties are, in turn, selected from formula (I) as defined in claim 1.

Referring to the specification as originally filed, the compounds listed in Table 1 are representative capsid binding moieties of formula (I) (*see* specification at page 4-6). To facilitate covalent attachment of the capsid binding moieties to the non-polymeric backbone or core, the capsid binding moieties may be derivatized to form an intermediate that contains a functional group at, for example, what is known as the “heel” region of the capsid binding moiety (*see* specification at page 15, lines 5-7). Representative intermediates in this context are listed in Table 2 (*see* specification at pages 16-18). Such intermediates may then be reacted with the non-polymeric backbone or core to form the compounds recited in claim 1. To that end, representative compounds of claim 1 are listed in Table 3 at pages 20-25 of the specification as originally filed.

The recited compounds of this invention (such as those listed in Table 3) are in no way taught or suggested by the cited prior art references, taken alone or in any combination. Stated differently, none of the cited references teach or suggest a compound comprising at least two capsid binding moieties having the structure of formula (I) covalently attached to a non-polymeric backbone or core. Instead, the cited references are generally directed to the capsid binding moieties themselves – that is, capsid binding moieties that fall within formula (I). Such references, however, do not teach or suggest the covalent attachment of at least two capsid binding moieties of formula (I) to a non-polymeric backbone or core. Further, since all the remaining claims (*i.e.*, claims 2, 4-13, 15-17, 19-28 and 30-33) depend directly or indirectly from claim 1, and thus contain all the limitations thereof, they are free of the cited prior art for the same reasons.

Accordingly, Applicants submit that all pending claims stand free of the cited art, and request that this ground of rejection be withdrawn.

Duplicative Claims

Lastly, pending claims 2, 4, 5, 7, 9, 11, 12, 13, 19, 20, 22 and 23 stand objected to as being substantially duplicative of claim 1. Each of the objected claims depends directly or indirectly from claim 1, and more specifically and narrowly recites various aspects of claim 1.

Thus, the objected claims are not duplicative of claim 1, but instead represent proper dependent claims. Accordingly, Applicants request that this ground of objection also be withdrawn.

Summary

In view of the above amendments and remarks, consideration and allowance of claims 1, 2, 4-13, 15-17, 19-28 and 30-33 is respectfully requested. A good faith effort has been made to place this application in condition for allowance. However, should any further issue require attention prior to allowance, the Examiner is requested to contact the undersigned at (206) 622-4900 to resolve the same.

Respectfully submitted,

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